

REMARKS

In the Office Action, the Examiner rejected Claims 1, 2, 5, 6, 11-13, 15 and 17, which are all of the then pending claims, over the prior art, principally WO 01/23325 A1 (Saito). Specifically, Claims 1, 2, 6, 11-13 and 17 were rejected under 35 U.S.C. 102 as being fully anticipated by Saito, and Claims 5 and 15 were rejected under 35 U.S.C. 103 as being unpatentable over Saito in view of U.S. Patent 6,184,876 (Miller).

Independent Claims 1, 6 and 11 are being amended to better define the subject matters of these claims. Also, Claims 2 and 12, which are dependent from Claims 1 and 11 respectively, are being amended to describe in more detail the function or operation of the audio signal generator.

For the reasons explained below, Claims 1, 2, 5, 6, 11, 12, 15 and 17 patentably distinguish over the prior art and are allowable. Accordingly, the Examiner is asked to reconsider and to withdraw the rejections of Claims 1, 2, 5, 6, 11-13 and 17, and to allow these claims.

As discussed in detail in the present application, the instant invention relates to a method and system for providing a user friendly audible signal to indicate the status of a computer process. Many computer processes take some time to finish. While the computer user waits for a process to finish, the user can come to the wrong conclusion about the status of the process – either mistakenly believing that the process has frozen when in fact it has not, or mistakenly believing that the process is running when it actually has frozen. In addition, even when the process is running properly, users can become frustrated with simply not knowing how far along the process is.

The present invention effectively addresses these issues.

Saito describes a technique for indicating the progress of information processing, and selected music may be reproduced on the basis of the progress of information processing. In this technique, a processing device sequentially replays different pieces of music in accordance with a degree of progress of information processing. In this way, the information processing device enables the user to listen to the music and grasp the degree of progress.

The U.S. counterpart (U.S. Patent 6,894,213) discloses, in column 6, lines 58-62, that the audio signal may change depending on the percentage of completion of the process. This change, though, is simply a change in the music that is played – from track 1 of a CD to music recorded in a disk file.

There are a number of important features of the present invention that are not shown in or suggested by Saito. One such important feature is the use of the time between the audio signals to indicate the percentage of completion of the process.

To elaborate, with the preferred embodiment of the present invention, after a computer process is initiated, that process generates status signals representing a status of the process, and those status signals are used to produce audible sounds representing the status of the process. In particular, discontinuous sounds are produced with different lengths of time between sounds, and these different lengths of time represent a percentage of completion of the process. For example, the sounds may get closer together, or be more frequent, the nearer the process is to completion.

Preferably, an audio signal generator is used to generate the audio signals, and this generator is included as part of the computer's operating system. With this arrangement, the end user is provided automatically with the audio generator, and the user does not need to connect the audio generator to the operating system on a retrofit basis. Further, including the audio

generator in the operating system makes it easier to coordinate operation of that generator with the other components of the operating system. This coordination can be built into the operating system at the system design level.

The procedure disclosed in Saito does not operate in this way. Instead, with the Saito procedure, different pieces of music are replayed or played to represent the percentage of completion of the process. Thus, while in the Saito procedure, the sounds may be discontinuous, when for example, the sound change from one piece of music to another, Saito does not use different lengths of time between sounds to represent the percentage of completion of the process.

In the Office Action, the Examiner, in discussing Saito, argued that “These sounds are in fact variable in length.” (Page 3, lines 5 and 6). Applicants do not disagree with this statement. However, what is important in the present invention, is that the lengths of time between the sounds are different. This difference is then used to represent the percentage of completion of the process. Thus, Saito does not have this important feature of the present invention.

The other references of record have been reviewed, and these other references, whether considered individually or in combination, also do not disclose or suggest this feature of the instant invention.

For instance, Miller discloses a procedure using a computer for producing audio tones representative of a distance measurement. The Examiner argued that Miller thus teaches audibly communicating comparison information to a user. The Examiner further argued that, in view of Miller, it would have been obvious to utilize speech based cues for the indication of the variable degrees of progress in the system of Saito.

This general teaching of Miller, however, does not teach the specific mechanism used in the present invention to indicate the percentage of completion of the process - using discontinuous sounds with different lengths of time between the sounds, with these different lengths of time representing different percentages of completion of the process. The teaching of Miller is to vary the tone; not to provide a discontinuous sound, or to use different lengths of time between sounds to represent percentage of completion of a computer process.

The other references of record have been reviewed, and these other references, whether considered individually or in combination, also do not disclose or suggest this feature of the present invention.

Independent Claims 1, 6 and 11, are being amended to emphasize the above-discussed feature of the invention. In particular, Claim 1, which is directed to a system in a programmable electronic digital computer, describes an audio signal generator configured to receive status signals, representing a status of the user initiated computer related process, and to generate, in response to receipt of those status signals, audio signals representing the status of the process. Claim 1 further describes this audio signal generator as including means to produce intermittent audio signals with different lengths of time between the audio signals, said different lengths of time representing different percentages of completion of the process.

Claim 6 is directed to a method of providing an audible sound to indicate the state of a computer related process, and this claims now includes the step of using status signals, which represent the status of a process, to produce audible sounds representing the status of the process. Claim 6 also describes this using step as including the step of producing discontinuous sounds with different lengths of time between the sounds, said different lengths of time representing different percentages of completion of the process.

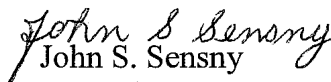
Claim 11 is directed to a program storage device embodying instructions for providing an audible sound to indicate the state of a computer related process. Claim 11 also sets forth method steps analogous to those discussed above in connection with Claim 6.

The above features of Claims 1, 6 and 11 are of utility for a number of reasons. For instance, these features give the user a direct, user friendly way to determine, not only whether or not the process is running, but how far along that process is.

Because of the above-discussed differences between Claims 1, 6 and 11 and the prior art, and because of the advantages associated with those differences, these claims patentably distinguish over the prior art and are allowable. Claims 2 and 5 are dependent from Claim 1 and are allowable therewith. Claim 17 is dependent from, and is allowable with, Claim 6; and Claims 12, 13 and 15 are dependent from Claim 11 and are allowable therewith.

For the reasons set forth above, the Examiner is respectfully asked to reconsider and to withdraw the rejections of Claims 1, 2, 6, 11, 12, and 13 under 35 U.S.C. 102, and the rejections of Claims 5 and 15 under 35 U.S.C. 103, and to allow Claims 1, 2, 5, 6, 11, 12, 13, 15 and 17. If the Examiner believes that a telephone conference with Applicant's Attorneys would be advantageous to the disposition of this case, the Examiner is asked to telephone the undersigned.

Respectfully submitted,


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